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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,831	09/05/2003	Alfred V. Alasia	62770.000068	7155

7590 06/29/2005

J. Michael Martinez de Andino, Esq.
HUNTON & WILLIAMS
Riverfront Plaza, East Tower
951 E. Byrd Street
Richmond, VA 23219-4074

EXAMINER

LEMMA, SAMSON B

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary

Application No.

10/655,831

Applicant(s)

ALASIA ET AL

Examiner

Samson B. Lemma

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08).
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in replay to an amendment filed on January 03, 2005. claims 1-55 are pending.

Response to Arguments

2. Applicant's argument filed on April 08, 2005 have been fully considered but they are not persuasive.

The first argument by the applicant is about the independent claims **1, 13, 27 and 41** includes limitations that are not shown or suggested or anticipated by the references on the record, namely Huang.

Applicant argued that the reference on the record, Huang, does not teach, disclose or suggest a latent image formed in a transmittent printing medium or printing a latent image using a transmittent printing medium. Applicant recited the following in support of his argument.

"As noted in the specification, the term transmittent print medium means a print medium that allows passage of light through the print medium without a significant degree of reflection of the incident light in a direction normal to the surface on which the print medium is applied. Application, paragraph 17.

The Huang Application does not disclose or even discuss the use of a transmittent printing medium. Although it uses the term watermark the Huang Application discloses the embedding of latent images in visible printed dot patterns. The latent images are rendered non-visible through the use of modulated shifts in the regular dot pattern. These shifts are generally too small to be discernible to the eye, but do result in visually apparent changes in the overall gray level of the printed dot area. See Huang Application, paragraph 28. The Huang Application

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does not disclose printing a watermark using a medium that transmits light. As noted above, claims 1, 13, 27 and 41 each recite, in one form or another, a latent image formed using a transmittent printing medium. Because this feature is nowhere discussed in the Huang Application, the Applicant respectfully requests that the rejection of claims 1, 13, 27 and 41 under 35 U.S.C. 102(b) be withdrawn."

Examiner disagrees with this argument.

Examiner points out that the whole purpose of applying the latent images embedded in a watermark layer's structure is to protect the document from the counterfeit and forgery. [See paragraph 0010].

The latent image object embedded in a watermark **cannot be observed by unaided human eye's unless** a decoder corresponding to that watermark layer's structure is overlapped on the watermark. [see paragraph 0011]

Furthermore Huang discloses that each watermark layer is a repetitive structured array of dots. Latent image objects are embedded into the watermark layer by modulation. This may include, for example, phase modulation. The structure and orientation of the different watermark layers in an optical watermark must be different from each other. **Only the decoder corresponding to a particular watermark layer can be used to view the latent image object embedded in that particular watermark layer.** [See page 2, paragraph 0025]

The following paragraph is what is cited by the applicant in his argument.

Likewise, Huang further discloses the phase modulation changes the distances between a pair of dots at the edge of the latent images in the direction of the phase modulation. According to the characteristics of the human visual system, such changes of distances will make the edge of the latent image become either lighter or darker than the overall grey level of the dot array. Such effect will reveal the shape of the latent images. [Page 2, paragraph 0028].

However, **this does not mean that Huang application discloses the embedding of latent images in visible printed dot patterns** as applicant argued.

It is a medium that can **become invisible** and allow the passage of light after smoothing effect is applied. Thus after the application of the smoothing effect the embedding of the latent image will in fact be **invisible**.

Examiner would point out the following in support of his argument.

In order to compensate for this effect, a "smoothing" process may be applied to the regions with an abrupt phase shift.[Page 2, reference 0028].

Therefore, after the smoothing effect is applied the embedding of latent image becomes invisible printed dot patterns and cannot be observed by the unaided human eye.

And to view the latent image objects in the modulated dot arrays, **the decoder should have a grating structure with the same spatial frequency as the dot arrays.** In order to demodulate the latent image modulated in a particular direction, the orientation of the decoder should be aligned in the same direction.[See also page 2, paragraph 0028].

Therefore as it is shown above, the applicant argument that the Huang application discloses the embedding of latent images in **visible printed dot patterns** only applies before the smoothing process is applied and after the smoothing process is applied the embedding of the latent image **will be invisible and an appropriate** decoder has to be used to reveal the latent image object.

Thus since the watermark used is an invisible dot pattern or which can be made invisible using the smoothing process, this means that the watermark is printed using medium that does not block the passage of light or which does allow/transmit the passage of light and this is inherently included by the Huang reference on the record and meets the recitation of the applicant argument.

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Had the watermark is printed using medium that is visible as applicant argued, it would have been observed by unaided human eye's with out using a special decoder and the document would not have been protected from the counterfeit and forgery and this is contrary to the Huang teaching/invention.

The Second argument by the applicant is with regard to the dependent claims ,

The rest of the applicant argument is based on and related to argument made above, and applicant argued that the rest of the claims are allowable for the reason that the Huang and the other reference on the record does not disclose the limitation of "printing a watermark using a medium that transmit light."

In response to the above argument by the applicant, the examiner response discussed for the independent claims above is also valid towards this argument. Therefore all the elements of the limitations is explicitly/ implicitly or inherently suggested and disclosed by reference or combinations of reference on the records and the rejection remains valid.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. **Claims 1,8-9,10,13,27,34-35, 41, 48,51-52,55** are rejected under 35 U.S.C. 102 (b) as being anticipated by Huang et al. (hereinafter referred to as **Huang**) (U.S. Publication Number: 2002/0054680)

5. **As per claims 1,13,27,41,51-52 and 55** **Huang** discloses an authenticatable article comprising:

- A printable surface; [Page 1, reference '[0001]' and "[0002]"]
- A latent image formed on a first portion of the printable surface in a transmittent printing medium, the latent image being an encoded version of an authentication image and being configured for optical decoding by an optical decoder so that the authentication image can be viewed through the optical decoder when the optical decoder is placed over the latent image.[Page 1, reference "[0003]" , reference "[0011]" and reference "[0013]"; page 4, reference "[0057]" and "abstract")

6. **As per claims 8,34,35** **Huang** discloses an authenticatable article as applied to claims 1 and 27 above. Furthermore Huang discloses an authenticatable article wherein wherein the line frequency is selected to match a lens frequency of the decoder within about plus or minus 10 lines/inch.[Page 4, reference "[0057]"]

7. **As per claims 9, 10 and 48** **Huang** discloses an authenticatable article as applied to claims 1 and 41 above. Furthermore Huang discloses an authenticatable article wherein a visible primary image formed on a second portion of the printable surface. .[Page 1, reference "[0003]" ,reference "[0011]" and reference "[0013]" and "abstract")

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 2-5,11-12,14-17,28-31,42-45,49-50** are rejected under 35 U.S.C. 103(a) as being unpatentable over by Huang et al. (hereinafter referred to as **Huang**) (U.S. Publication Number: 2002/0054680) in view of **Amon** et al (hereinafter referred to as **Amon**) (U.S. Publication 2003/0136837)

10. **As per claims 2,3,11-12,14-15,28-29,42-43,49-50** Huang discloses an authenticatable article comprising:

- A printable surface; [Page 1, reference '[0001]' and "[0002]"]
- A latent image formed on a first portion of the printable surface in a transmittent printing medium, the latent image being an encoded version of an authentication image and being configured for optical decoding by an optical decoder so that the authentication image can be viewed through the optical decoder when the optical decoder is placed over the latent image.[Page 1, reference "[0003]" , reference "[0011]" and reference "[0013]"; page 4, reference "[0057]" and "abstract")

Huang does not explicitly teach

- an authenticatable article wherein the transmittent printing medium is selected to provide a maximum reflectivity difference between the first portion of the printable surface with the latent image printed thereon and an adjacent area of the printable surface, the maximum reflectivity difference being no greater than 5% of the reflectivity of the adjacent area.

However, In the same field of endeavor, **Amon discloses**

Particularly useful for identity documents, the security marking is a random-pattern of optically authenticate-able flakes or particles, applied over a printed micro-text. Said random-pattern of particles is produced by over-coating said printed document, at least in part, with a clear varnish containing said optically authenticate-able particles in an appropriate concentration. Said over-coating varnish may have additionally a protecting function, and said optically authenticate-able particles may have particular optical characteristics, such as spectrally selective reflectivity, angle-dependent color appearance, luminescence, polarization, etc.[Page 5, reference “[0087]”]

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the features of selective reflectivity for the purpose of authentication as per teachings of **Amon** into the method taught by **Huang** in order to avoid detection and enhances authentication.

11. **As per claims 4-5,16-17,30-31,44-45** **Huang** discloses an authenticatable article comprising:

- A printable surface; [Page 1, reference “[0001]” and “[0002]”]
- A latent image formed on a first portion of the printable surface in a transmittent printing medium, the latent image being an encoded version of an

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authentication image and being configured for optical decoding by an optical decoder so that the authentication image can be viewed through the optical decoder when the optical decoder is placed over the latent image.[Page 1, reference “[0003]”, reference “[0011]” and reference “[0013]”; page 4, reference “[0057]” and “abstract”]

Huang does not explicitly teach that the transmittent printing medium comprises a clear printer's varnish.

However, In the same field of endeavor, **Amon discloses**

Particularly useful for identity documents, the security marking is a random-pattern of optically authenticate-able flakes or particles, applied over a printed micro-text. Said random-pattern of particles is produced by over-coating said printed document, at least in part, with a clear varnish containing said optically authenticate-able particles in an appropriate concentration.[Page 5, reference “[0087]”]

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the features of using clear varnish as per teachings of **Amon** into the method taught by **Huang** in order to have small variations in reflectivity of the substrata that do not change over time.

12. **Claims 6-7,18-19,32-33,46-47,53-54,** are rejected under 35 U.S.C. 103(a) as being unpatentable over by Huang et al. (hereinafter referred to as **Huang**) (U.S. Publication Number: 2002/0054680) in view of **Merry** et al (hereinafter refereed as **Merry**) (U.S. Patent No: 5,178,418)

13. **As per claims 6-7,18-19,32-33,46-47,53-54,** **Huang** discloses an authenticatable article comprising:

- A printable surface; [Page 1, reference “[0001]” and “[0002]”]

- A latent image formed on a first portion of the printable surface in a transmittent printing medium, the latent image being an encoded version of an authentication image and being configured for optical decoding by an optical decoder so that the authentication image can be viewed through the optical decoder when the optical decoder is placed over the latent image.[Page 1, reference “[0003]”, reference “[0011]” and reference “[0013]”; page 4, reference “[0057]” and “abstract”)

Huang does not explicitly teach the latent image comprises a plurality of parallel lines printed with a line frequency in a range of about 50 lines/inch to about 150 lines/inch. However, In the same field of endeavor, **Merry discloses**

The latent image within the printed character array, according to the foregoing, is viewable by overlaying the array with a lenticular finding screen comprising a set of convex plano-cylindrical lenses having the same line (or column) frequency as the character strings. When the lenses are aligned parallel to the character strings, the latent image is viewed at a slightly different angle than the array due to refraction. [Column 3, lines 49-51]

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the features having latent image comprises a plurality of parallel lines printed with a line frequency as per teachings of **Merry** into the method taught by **Huang** for the purpose of authenticating the object.

14. **As per claims 21,20 the combinations of Huang and Merry discloses an** authenticatable article as applied to claim 19 above. Furthermore **Huang** discloses an authenticatable article as applied to claims 1 and 27 above. Furthermore Huang discloses an authenticatable article wherein wherein the line frequency is selected to match a lens frequency of the decoder within about plus or minus 10 lines/inch.[Page 4, reference “[0057]”]

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15. **Claims 36-40**, are rejected under 35 U.S.C. 103(a) as being unpatentable over by Huang et al. (hereinafter referred to as **Huang**) (U.S. Publication Number: 2002/0054680) in view of Kolesar et. al (hereinafter refereed as **Kolesar et al**) (U.S. Patent No: 6,177,683)

16. **As per claims 36-40 Huang** discloses an authenticatable article comprising:

- A printable surface; [Page 1, reference '[0001]' and "[0002]"]
- A latent image formed on a first portion of the printable surface in a transmittent printing medium, the latent image being an encoded version of an authentication image and being configured for optical decoding by an optical decoder so that the authentication image can be viewed through the optical decoder when the optical decoder is placed over the latent image.[Page 1, reference "[0003]" , reference "[0011]" and reference "[0013]"; page 4, reference "[0057]" and "abstract")

Huang does not explicitly teach the lenticular lens comprises an anti-reflective coating on at least one of the upper, viewer-facing surface and the lower, image-facing surface.

However, In the same field of endeavor, **Kolesar discloses**

That both the lens and the kinoform have an anti-reflective coating to reduce glare.[Column 4, lines 20-21]

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the features having anti-reflective coating as per teachings of Kolesar into the method taught by **Huang** for the purpose of reducing the glare.

17. **Claims 21-26**, are rejected under 35 U.S.C. 103(a) as being unpatentable over by Huang et al. (hereinafter referred to as **Huang**) (U.S. Publication Number: 2002/0054680) in

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view of **Merry** et al (hereinafter refereed as **Merry**) (U.S. Patent No: 5,178,418) further in view of Kolesar et. al (hereinafter refereed as **Kolesar et al**) (U.S. Patent No: 6,177,683)

18. **As per claims 21-26 the combination of Huang and Merry** discloses an authenticatable article comprising:

- A printable surface; [Page 1, reference '[0001]' and "[0002]"]
- A latent image formed on a first portion of the printable surface in a transmittent printing medium, the latent image being an encoded version of an authentication image and being configured for optical decoding by an optical decoder so that the authentication image can be viewed through the optical decoder when the optical decoder is placed over the latent image.[Page 1, reference "[0003]" , reference "[0011]" and reference "[0013]"; page 4, reference "[0057]" and "abstract")

The combination of Huang and Merry does not explicitly teach the lenticular lens comprises an anti-reflective coating on at least one of the upper, viewer-facing surface and the lower, image-facing surface.

However, In the same field of endeavor, **Kolesar discloses**

That both the lens and the kinoform have an anti-reflective coating to reduce glare.[Column 4, lines 20-21]

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the features having anti-reflective coating as per teachings of Kolesar into the method taught by **Huang** for the purpose of reducing the glare.

Conclusion

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19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samson B Lemma whose telephone number is 571-272-3806. The examiner can normally be reached on Monday-Friday (8:00 am---4: 30 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BARRON JR GILBERTO can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

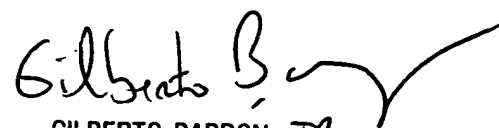
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SAMSON LEMMA

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S. L.

June 23, 2005



GILBERTO BARRON JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100